BULLETIN OF

WESTERN RESERVE UNIVERSITY

AT UNIVERSITY CIRCLE
CLEVELAND, OHIO

THE SCHOOL OF LIBRARY SCIENCE

REQUIREMENTS & COURSES

1965 - 1966

THE UNIVERSITY

THE ARTS AND SCIENCES CURRICULA	*Adelbert College* *Flora Stone Mather College* *Cleveland College* *The Graduate School*
THE PROFESSIONAL CURRICULA	*School of Business* *School of Dentistry* *Franklin Thomas Backus School of Law* *School of Library Science* *School of Medicine* *Frances Payne Bolton School of Nursing* *School of Applied Social Sciences*
INSTITUTES AND SERVICES	*Biology Field Station* *Bureau of Business Research* *Center for Documentation and Communication Research* *Developmental Biology Center* *Law-Medicine Center* *Mental Development Center* *Institute of Pathology* ***The Summer Session*** *Psychological Research Services* Personnel Research Institute Reading Improvement Service Vocational Counseling Center

BULLETIN OF WESTERN RESERVE UNIVERSITY

NEW SERIES — VOLUME LXVIII, NUMBER 2 — MARCH 24, 1965

Issued in nine numbers during the year—three numbers in March; three numbers in April; one number in May; one number in June; one number in July—by Western Reserve University, 2040 Adelbert Road, Cleveland, Ohio 44106. Second Class Postage paid at Cleveland, Ohio.

SCHOOL of LIBRARY SCIENCE

of

Western Reserve University

The Academic Year 1965 - 1966

JESSE HAUK SHERA, Ph.D., Dean

List of Officers of Administration and Instruction, page 29.

THE UNIVERSITY INSIGNIA

The University Insignia is a shield which, in heraldic terms, represents faith. It supports the open book of education on an azure background denoting truth.

The Hebraic letter Aleph and the Greek letter Omega indicate the passage of time.

Wisdom and honor are symbolized by the golden sun and its rays represent the original twelve trustees of the University. Peace and achievement are implied in the crossed olive branches.

The School of Library Science Calendar

1965

June 18, 19	Friday Saturday	Registration for Summer Session
June 21	Monday	Summer Session begins
July 5	Monday	Celebration of Independence Day—a holiday
August 7	Saturday	Summer Session ends
September 9	Thursday	Convocation for awarding of degrees
September 10, 11, 13	Friday, Saturday Monday	Registration days—Winter Session
September 14	Tuesday	First day of classes
November 24	Wednesday	Thanksgiving Recess begins at noon
November 29	Monday	Classes resume at 8:00 a.m.
December 17	Friday	Last day of classes—Christmas recess

1966

January 3	Monday	Classes resume at 8:00 a.m.
January 17 January 21	Monday to Friday	Final examinations
January 22	Saturday	Winter Session ends
February 2	Wednesday	Convocation for awarding of degrees
February 4, 5, 7	Friday, Saturday, Monday	Registration days—Spring Session
February 8	Tuesday	First day of classes
April 4	Monday	First day of Spring recess
April 11	Monday	Classes resume at 8:00 a.m.
May 30	Monday	Memorial Day—a holiday
June 1 June 8	Wednesday Wednesday	Final examinations
June 7	Thursday	Spring Session ends
June 12	Sunday	Baccalaureate Service
June 15	Wednesday	University Commencement
June 17, 18	Friday, Saturday	Registration for Summer Session
June 20	Monday	First day of classes
July 4	Monday	Independence Day—a holiday
August 6	Saturday	Summer Session ends
September 9	Friday	Convocation for awarding of degrees
September 16, 17, 19	Friday, Saturday, Monday	Registration days—Winter Session
September 20	Tuesday	First day of classes

The School of Library Science

The School of Library Science is a graduate professional school for men and women. It was founded in 1903 through a gift from Andrew Carnegie secured by Charles F. Thwing, then President of the University, and William H. Brett, then Librarian of the Cleveland Public Library. In 1955 the School established its Center for Documentation and Communication Research, for the purpose of exploring non-conventional approaches to the analysis, storage, and retrieval of recorded knowledge.

The School of Library Science is a member of the Association of American Library Schools and is accredited by the Board of Education for Librarianship of the American Library Association.

OBJECTIVES

Never in the history of our country has the need for all forms of recorded knowledge been so important to our national welfare as it is today. From the child's first experience with books to the scholar's research in the literature of his specialization, and at every intervening level of human activity, the professional competence of the librarian is increasingly in demand. To the education of professional librarians who are competent in subject knowledge, qualified for positions of responsibility, and aware of the social importance of libraries, the School of Library Science at Western Reserve University is dedicated.

To achieve its goal the School offers to college graduates of superior ability not only the first professional degree of Master of Science in Library Science, but also, in cooperation with The Graduate School, the research degree of Doctor of Philosophy. Since active participation in research is essential to graduate professional education, the projects and facilities of the Documentation Center are available to both M.S. in L.S. and Ph.D. candidates. The Center serves as a unique resource for both students and faculty, extending and enriching the instructional program of the School by making possible specialized advanced courses, opportunities for individual research, laboratory experience, and contact with leaders in information retrieval.

Because of the great variety of opportunities to be found in library service, the School is eager to attract promising students with diverse educational backgrounds. For all students a sound general education, including a basic knowledge of at least one foreign language, supplemented by undergraduate specialization, is regarded as essential. For those seeking careers in public library service, specialization might be in such disciplines as sociology, psychology, economics, political science, history, or the humanities. Students looking toward careers in school librarianship will wish to take certain courses in education. Those who plan to enter the field of college and university librarianship should emphasize a subject field, or fields, relating to the type of academic li-

brary in which they hope to seek employment, e.g. the physical or biological sciences, the social sciences, or one of the humanities such as music, art, or literature.

The growing concern of business, industry, and government over the rapid expansion and increasing complexity of scientific and technical literature has resulted in a greatly intensified demand for special librarians, documentalists, and information specialists. Students who expect to engage in these areas of librarianship should be well prepared in science or social science (especially business and public administration), the choice being dependent upon the character of the career elected. Proficiency in any phase of librarianship is a union of general education, subject specialization, and professional library competence. Lacking any one of these the librarian will fail to meet the standards of excellence that those he hopes to serve have the right to expect.

Degrees

Master of Science in Library Science

On recommendation of the Faculty of the School of Library Science, Western Reserve University confers the degree of Master of Science in Library Science upon candidates who have successfully completed thirty-six hours of approved courses in the School and otherwise met the prescribed requirements of the University. The program can be completed in a minimum of three sessions (Summer, Winter, and Spring, or Winter, Spring, and Summer), and must be completed within seven years after matriculation. Part-time students must attend at least one Spring session on a full-time basis (9-15 hours) and must enroll for at least one course in two of every three consecutive semesters.

The Master's curriculum prepares students for library service in various fields. A group of basic courses, required of all students, ensures a knowledge of materials and methods common to libraries of all types.

Basic Required Courses:

History of Books and Libraries (502)	3
Introduction to Libraries (511)	3
Information Sources and Services (521)	3
Materials Selection (525)	3
Organization and Cataloging (537)	3
Literature of:	
Science and Technology (584) or,	3
The Humanities (586), or,	3
The Social Sciences (588)	3

Beyond these basic courses, a sequence of courses is required in the various areas of specialization. These areas are:

Service to Children in Elementary School and Public Libraries
Service to Young Adults in Secondary School and Public Libraries
The Public Library
The Academic Library
The Special Library
Science Information
Documentation

An average grade of B must be maintained for graduation, but no more than six hours of C will be counted toward the 36 hours required for the degree.

Doctor of Philosophy

The program leading to the degree of Doctor of Philosophy is administered jointly by the School of Library Science and The Graduate School of the University. It is designed to enable qualified students to combine advanced professional study and research in librarianship with graduate study in one or more related subject fields in The Graduate School. The degree is awarded in recognition of high intellectual attainment, independent research, and the presentation of an acceptable dissertation which represents an actual contribution to knowledge. Graduates should be qualified to fill positions of responsibility in various phases of librarianship, bibliography, documentation, and other specialized information services.

It should be understood that the Doctorate is not granted upon the accumulation of any number of course credits or years of residence, but only in recognition of the candidate's mastery of an important area of learning and upon demonstration of his ability to advance knowledge in his field.

A field of specialization in librarianship may be chosen from such areas as: General bibliography or literature and bibliography of a special subject field; organization and administration in public, academic, or special libraries; service to children or young adults; documentation and communication research; the history and function in society of books, libraries, and librarianship. For the cognate subject area, cooperative programs can be arranged with many departments of The Graduate School.

Applicants must be approved by the Dean of The Graduate School upon the advice of the Dean of the School of Library Science, who acts as coordinator of this program. The accepted applicant is registered in The Graduate School and is subject to the regulations and procedures set forth in the bulletin of that School. Bulletins and application forms may be obtained from the Director of Admission.

The credentials of all applicants are evaluated by the School of Library Science, which acts in cooperation with the department of the applicant's cognate subject area. Preliminary examinations may be required before entering or during the program. Applicants must present themselves for a personal interview with the Dean of the School of Library Science and the Coordinator of the Ph.D. program, and must give evidence of their professional experience.

Requirements for the Doctorate

A minimum of seventy-eight semester credit hours, covering a three-year period of graduate study, is required; the last twenty-four hours of credit must be earned in residence at Western Reserve University. In most cases, a master's degree in Library Science or in a subject field will be accepted for credit toward the Doctoral degree. Beyond the minimum credit structure, actual hour requirements will vary according to the individual's preparation and objectives. The student should consult with the Coordinator of the Ph.D. program to plan a course of study which will meet his interests and needs and will fulfill the required subject distribution between Library Science and his cognate field.

All students in the Doctoral program are required to participate in the *Seminar for Doctoral Students.* They must also complete or have completed Library Science 529 (or equivalent) and any other course or courses designated in accordance with their individual needs.

A general examination in Library Science and the student's cognate subject field is required and must be taken not later than six months prior to the granting of the degree. The completion of the required number of credit hours does not automatically admit the student to this examination; it is open only to those students whose performance has demonstrated to the Dean and the Faculty that they have acquired knowledge and formal training sufficient to prepare them for it.

Students must demonstrate, by examination, their ability to read two foreign languages (usually French, German, or Russian) before being admitted to the general examination. The substitution of another language, or of statistics for one of the languages, may be recommended by the Dean of the School of Library Science.

A dissertation, representing original research, is required of all candidates. After admission to the doctoral program, the student is expected to present a written proposal for his dissertation for approval by the dissertation committee. The credit for a dissertation is twelve semester hours.

No student shall be a candidate for the Ph.D. degree until he has (a) fulfilled all course and preliminary examination requirements of his program; (b) fulfilled the foreign language requirement; (c) passed the

general examination; and (d) received formal approval of his dissertation topic. Formal application for admission to candidacy for the Doctorate must be filed at the Office of the Dean of The Graduate School not less than two months prior to the date of the University Convocation at which the candidate expects to receive his degree.

Degree candidacy must be established within four years from the date of registration in the doctoral program. The dissertation must be completed within five years from the date of formal topic approval; otherwise, a second general examination may be required by the School of Library Science. Rules governing the form and time of submission of the dissertation should be obtained from the Office of the Dean of The Graduate School well in advance of final composition.

A final oral examination, the Defense of the Thesis, will be conducted not later than one week prior to the granting of the degree. A student may be refused admission to candidacy for the degree or to any of the examinations if he fails to maintain satisfactory standards of scholarship.

Research and Special Activities

Research programs are at present being conducted at the Center for Documentation and Communication Research in basic principles and techniques for the organization and utilization of recorded information. Current research and development programs are supported by the National Institutes of Health, National Science Foundation, Air Force Office of Scientific Research, and the U. S. Office of Education. A Comparative Systems Laboratory has been established to develop a methodology for testing the effectiveness and efficiency of information retrieval systems. Work is also progressing in such areas as systems design, library automation, indexing languages, search strategy, file subdivision, automatic processing of natural language text, and applications of computers in information processing.

Through the generosity of the Carnegie Corporation of New York, a grant of $50,000 was made to Western Reserve University for a study of education for librarianship. This study, being conducted by the Dean of the School, begins with an examination of librarianship as a profession and, by analyzing the role of the library in society, seeks to define the objectives and principles of education for librarianship. From this investigation should derive a new and more effective curriculum of education for librarianship which will not only relate directly to the course of study at Western Reserve, but should also influence library school curricula throughout the country.

Work is progressing on the preparation of a new Encyclopedia of Library Science and Documentation to be published by Wiley-Interscience Publishers of New York. This encyclopedia, which will be the

first of its kind, is intended to fill the need for a unified treatment of all areas of librarianship and documentation.

In 1955, the Special Libraries Association Special Classifications Center was transferred to Western Reserve University to be developed and serviced at the School of Library Science. Through the cooperative efforts of the Association's Special Classifications Committee and various professional, governmental, educational, commercial, and private organizations in the United States and around the world, hundreds of classification schemes and other systems for organizing information have been collected over the years. With the receipt of a supporting grant from the National Science Foundation in the fall of 1963, Special Libraries Association is expanding both the resources and the activities of this unique collection, which is consulted by librarians all over the world as special problems of organization arise in their libraries.

In recent years the School has promoted a number of meetings of vital importance to the understanding of theory and practice of librarianship and has served as host to a number of professional library associations.

In April of 1962, the Library Services Branch of the U.S. Office of Education joined with the School to co-sponsor an institute on The Future of Library Education, in an attempt to ensure that innovations will be soundly based upon the most accurate information and best thinking available. The proceedings were published in the Summer 1962 issue of the *Journal of Education for Librarianship.* In the same month, the Documentation Center presented a conference to review five years of research, development, and operational activities related to machine literature searching systems. The proceedings were published by the Press of Western Reserve University early in 1963 under the name of the conference: *Information Retrieval in Action.*

In April of 1964, a meeting of some 250 civic leaders, government and school officials, librarians, and other educators in Cuyahoga and Lake Counties considered the problems of students of all ages in securing library materials and services needed in the pursuit of their studies. From this meeting, which was financed by a gift from the Lubrizol Corporation of Cleveland, came plans for a coordinated effort to determine student library needs in the Greater Cleveland area and ways of meeting them.

A two-day conference on Education of Science Information Personnel was held in July of 1964, attended by representatives of some twenty educational institutions (principally library schools), the U. S. Government, and local and national business concerns. Formal and informal presentations, discussions, and workshop sessions established terms of common ground which stressed the advantages of an interdisciplinary solution of the manpower training problem. Through the generosity of the Lubrizol Corporation of Cleveland, the proceedings will be published in the spring of 1965 under the title *The Education of Science Information Personnel—1964.*

It is expected that similar activities planned for the future will continue to bring to the School librarians with a wide variety of professional experience, as well as others concerned with the production, organization, and use of recorded information.

Admission

PROCEDURE

New full-time students are admitted in September and June. Admission to a part-time program of study is possible in February as well as September and June. Application for admission must be completed at least two weeks before the beginning of registration. A non-refundable application fee of $10.00 is required with each application for admission. Information, bulletins and applications may be obtained from the Director of Admission.

ADMISSION REQUIREMENTS

Graduates of approved colleges and universities who have a better than average scholarship record are eligible for admission.

Further requirements include a basic general familiarity with the use of libraries and library materials and a reading knowledge of one modern foreign language. Candidates must arrange for a personal interview with a member of the Faculty or with an authorized representative of the school.

In addition, applicants must submit the results of their performance on the Aptitude Test and one Advanced Test of their choosing of the Graduate Record Examination. These tests are administered five (5) times a year, in January, March, April, July, and November. Applications may be obtained by writing Educational Testing Service, Princeton, New Jersey.

Each applicant will be judged on the basis of scholastic standing, college background, library experience or training, and adaptability for library work.

In addition to meeting the high intellectual standards which have been established for admission, students are expected to possess superior personal qualifications and sound moral character. The University reserves the right to exclude any applicant for any reason it deems sufficient.

THE UNIVERSITY SUMMER SESSION

Courses leading to the degree of Master of Science in Library Science and Doctor of Philosophy are offered in the University Summer Session, although attendance during at least one Spring term is required for completion of the Master's program. Admission and degree requirements are the same as those for the regular academic year. The announcement of courses to be offered each summer is prepared in the spring and may be had on request from the Director of Admission.

FOREIGN STUDENT INFORMATION

All foreign students must demonstrate their ability to read, write, speak and comprehend English. The usual test required is the Test of English as a Foreign Language (TOEFL) administered by the Educational Testing Service, Princeton, New Jersey, U. S. A. Students whose native language is English, who have attended a college or university where English is the language of instruction, or who have completed a degree at an American institution, are exempt from this test requirement.

Foreign students who have attended or graduated from an American college or university must complete the GRE requirement as outlined in the section on admission requirements. All other foreign students are exempted.

Foreign students applying for a scholarship or internship will compete for financial aid on the same basis as students applying from within the United States. Awards are made on the basis of superior scholarship. The student receiving financial assistance from the University must have the additional funds necessary for his complete support while studying in the School of Library Science.

The foreign applicant must have at least $3,000 available for one year of study *exclusive* of travel to and from the United States and incidental costs connected with traveling to this campus.

All foreign students must pay the compulsory Health Service fee and purchase the compulsory Health and Accident Insurance policy. No exceptions will be made. Refer to the section on The University Health Service for details. Please note that the $10.00 application fee is *not* required of any foreign applicant.

Financial Information

GENERAL

In the Winter and Spring Sessions no student may register after Monday evening following the first week in which classes are held; in a Summer Session no student may register after Tuesday evening of the first week in which classes are held. An exception to this regulation will be granted only by the Dean of the College involved.

The discharge of all financial obligations to the University is a prerequisite to graduation and the obtaining of a degree. The student will not be considered to have registered in the University until all tuition and fees have been paid in full or satisfactory arrangements have been made with the office of the Comptroller.

Tuition and fees are payable at the office of the University Cashier, located in the Main Building of Adelbert College. Checks and money orders should be made payable to Western Reserve University for the exact amount due.

Tuition

Tuition rates listed below for School of Library Science students registering for twelve or more hours are flat fees quoted per academic year, one-half of which is payable per semester. The usual deferred payment schedule (see page 12) may be used if desired.

1965-66	1966-67
$1300	$1450

The above flat fees include the Health fee. See page 20.

For students registering for eleven or fewer hours, the tuition rates for each semester hour of credit are as follows:

1965-66	1966-67
$42	$46

The Health fee is required for all students who live in University residence halls and is optional for other part time graduate students registering for a minimum of five semester hours.

The University reserves the right to change the schedule of tuition and fees without further notice.

Special Fees

Fees may not be refunded.

Application fee, required with all applications for entrance $10.00

Late Registration Fee, for students registering for nine or more credit hours after classes have begun $5.00

For students registering for less than nine credit hours after classes have begun $2.00

Health Service and Health Insurance Fee required for all students who live in University residence halls and optional for other part time graduate students registering for a minimum of five semester hours:

First semester $18.00

Second semester $21.00

Student Activities Fee, per semester $1.00
This fee applies to students enrolled for nine or more hours each session.

Reinstatement Fee, for students restored to good standing following suspension, for any reason, from classes $3.00

Transcript Fee, charged after the first free transcript $1.00

Campus Parking Privilege, for students who qualify, per semester. (Fee to be determined) See page 22.

Deferred Payments

Students enrolled in Winter and Spring Sessions for courses of semester length may make arrangements for the payment of tuition in four installments. The minimum payment at registration will consist of all special fees and 25% of tuition. The remaining tuition may be divided into one, two or three installments due thirty, sixty and ninety days, respectively, immediately following registration, at a charge of $1.00 for each such payment. In case of deferred payments, students are expected to meet the installments promptly without notice from the University. When any installment payment becomes fifteen days past due, the student will be subject to suspension from classes. Tuition and fees for Summer Sessions are due and payable in full at registration.

Withdrawals

To withdraw from a course or from the University, a student must fill out an official withdrawal card and present it to the University Registrar for approval. Failure to attend class or merely giving notice to the instructor will not be regarded as an official notice of withdrawal.

Refunds

Students who withdraw from a semester-length session must pay the following fee or percentages of the tuition charges:

For the Winter and Spring semesters:

Withdrawal by the end of the first week in which classes are held $5.00

Withdrawal during 2nd through 4th week in which classes are held 40%

Withdrawal during 5th through 8th week in which classes are held 80%

Withdrawal after the 8th week in which classes are held 100%

Students who withdraw from the Summer Sessions must pay the following fee or percentages of the tuition charges:

Withdrawal by the end of the first two days of the summer session $5.00

Withdrawal during the third to the seventh day of the summer session inclusive 40%

Withdrawal after the seventh day of the summer session 100%

FINANCIAL AID

Inquiries concerning financial aid should be addressed to the Director of Admission. (For financial aid available to Doctoral candidates, see The Graduate School Bulletin.)

Scholarships

Scholarships, Fellowships, and Grants-in-Aid are available to qualified students enrolled for the full program during the academic year. University Scholarships, varying in amount from $100.00 to full tuition, are awarded annually for exceptional academic competence and promise, and upon the basis of demonstrable need. Grants-in-Aid, in amounts not to exceed full tuition, are awarded on the basis of financial need, satisfactory scholarship, and promise of professional achievement following graduation. Fellowships, depending in amount upon funds available, are awarded by the graduate and professional schools in recognition of unusual competence and promise.

School of Library Science scholarships are awarded from the following sources:

The William Howard Brett Fund, provided by the Alumni Association.

The Edith L. Eastman Fund, created as a memorial through the gift of Alice Stoeltzing.

The Alice S. Tyler Fund, created as a memorial through the gifts of Mrs. John P. Herrick and the Alumni of the School.

Among the scholarships and fellowships made available annually by national organizations, for graduate study in librarianship at the school of the student's choice, are the following:

For students planning careers in work with children and young adults, in school or public libraries: The Frederic G. Melcher Scholarship of $1,000 (children); the E. P. Dutton-John MacRae Award of $1,000 (children or young adults); two Grolier-Americana Scholarships of $1,000 each (school).

For students expecting to work in one of the many kinds of special libraries: American Theological Library Association Fellowships of varying amounts to a maximum of $4,000; Medical Library

Association scholarships of $150 for each accredited course in medical librarianship; several Special Libraries Association scholarships of $1,000 each, and a SLA Student Loan Fund.

Unrestricted awards: Catholic Library Association $600 Grant Scholarship; ten H. W. Wilson Company scholarships of $1,000 each; Library Binding Institute Scholarship of $1,000 for work in a special area of research through a library school.

Many state and regional library associations offer scholarships, requiring in return that recipients accept employment in the state or region for a given period of time after their graduation. For detailed information about financial aid available to library school students, write to the American Library Association, 50 East Huron Street, Chicago, Illinois 60611.

Loans

Loans are available through the Alumni Loan Fund and the following special funds:

The Elizabeth Briggs Loan Fund, created as a memorial by the children's librarians of the Cleveland Public Library.

The Frances Eleanor Hammitt Loan Fund, established as a memorial to their daughter by Mr. and Mrs. Frank Hammitt.

The Junior Librarians of Greater Cleveland.

Internships

Many opportunities for part-time employment exist in Greater Cleveland, offering experience in almost every type of library and in a wide variety of services. The work of the Center for Documentation and Communication Research also offers opportunities for students to combine employment with formal professional training and experience.

Cooperative work-study programs have been maintained for many years with libraries in this area, and formal intern programs have been established in the Cleveland Public Library and the Cuyahoga County Public Library. In such programs the course load of the student varies with his employment commitments and usually results in extending the period of study over a longer span of time than one year.

August Alpers Award

The Officers of the General Bookbinding Company of Cleveland have established an annual prize of $150.00 in memory of the firm's founder, August Alpers. This award, made each June upon recommendation of the Faculty, is granted to a member of the graduating class who has made an outstanding academic record and a significant contribution to the program of the School.

General Information

THE UNIVERSITY LIBRARIES

The School has a reference library of works in bibliography and library science and a collection of books sufficiently comprehensive to exemplify the problems of cataloging and classification. There are two special collections of considerable value and interest which were begun as class gifts: A collection of early American children's books, by the Class of 1915; and a collection of books on printing as a memorial to Edith L. Eastman, Class of 1907. An extensive collection of publications and reports in the fields of documentation and information retrieval, housed at the Documentation Center, provides a unique resource of published and unpublished material primarily for internal use by faculty, staff, and students.

In addition to the collections of books in the School, the University Library's excellent collections in all fields, and especially in bibliographical and reference materials, are conveniently available for student use. This Library also has a collection of books for children and young adults.

The vast library resources of the city of Cleveland are available for study and reference. The University Libraries system, containing over 840,000 volumes, includes the University Library and the libraries of the School of Applied Social Sciences, the School of Dentistry, the School of Law, the School of Library Science, the School of Medicine, and the School of Nursing. Near the campus are the libraries of Case Institute of Technology, the Cleveland Museum of Art, the Cleveland Institute of Art, the Cleveland Medical Library Association, and the Western Reserve Historical Society. In addition, the student is offered a wide field for observation and study by having access to various other business and special libraries, the suburban public libraries, the Cuyahoga County Library, and the Cleveland Public Library, with its collections of more than two and a half million volumes serving the city through a widespread system of branch libraries and other agencies.

The Regional Union Catalog, located in the University Library, comprises approximately 3,000,000 cards representing the holdings of most of the colleges and schools of the University, of practically all of the important libraries in the Cleveland area, and also of certain larger private, university, and colleges libraries in Ohio—including those of the Hayes, Oberlin, Ohio Wesleyan, Miami, and the University of Cincinnati —as well as special items at the University of Michigan. This catalog of over thirty libraries opens nearly the entire book resources of the area to the student.

UNIVERSITY HOUSING

Housing is available to single men and women enrolled in the graduate and professional schools of the University.

Applications for rooms, with a $25 reservation fee, should be filed as soon as possible after admission to the University. The fee is applied on the room rental but is not refunded if a student's application is withdrawn. Notification of a definite room assignment is mailed to students shortly before the beginning of each session; changes in room assignments may be made only by the Associate Dean of Students (for women) or by the Dean of Students (for men).

Residence halls open on the day before the registration period begins and close on the day following the end of each session. Graduating students may remain in the residence halls until the afternoon of Commencement Day. Rates include room rental for each of the seventeen week semesters, but residents are permitted to remain in the residence halls during the Thanksgiving, mid-term and spring recesses without additional charge. Students living in the University Hospitals residence may also remain there during the Christmas recess without additional charge.

Fees are payable in advance at the beginning of each session; deferred payments may be arranged. Rooms are engaged for a full semester and residents are held accountable for the rental for the period of the contract.

The University reserves the right to modify rates without further notice.

The University Health Service provides care on an ambulatory basis for resident students who have minor illnesses. For those resident students who need more supervised short-term care, a 14-bed infirmary with 24-hour physician supervision and 24-hour nursing care is located within the residence area. Under the Health Service and Infirmary program, students with more severe illness or with chronic disease can be directed to outside specialized care. In such cases, the Health Service is ready to cooperate with the student's family doctor in establishing programs of care. Fees for University Health Service and Infirmary care are included in the tuition and residence fees, since all resident students are required to participate in the University's health and accident insurance program. The Health Service reserves the right to place the financial responsibility upon the student-patient for illnesses that require special facilities not available in the Health Service program or under certain circumstances of pre-existing illness.

GRADUATE AND PROFESSIONAL MEN'S RESIDENCES

The Graduate House is a residence for single men enrolled in the graduate and professional schools of the University. It is located at Carnegie Avenue and East 107th Street, a short distance from the University campus. Single, double and triple rooms, each with private bath, are available.

The charges for room and board in The Graduate House per semester are:

Single Room	$575 & $600
Double Room	$485 & $515
Triple Room	$450

Applications for The Graduate House should be made to The Graduate House, 10660 Carnegie Avenue, Cleveland, Ohio 44106.

Additional housing for graduate men is also available in the Claud Foster Residence Hall, 11095 Euclid Avenue, at the rate of $275 per semester for a single room and $225 per semester for a double room. This residence hall is located near Freiberger Library, the Student Union, and the University Cafeteria, and is convenient to public transportation. All rooms in this residence hall are equipped with single beds, mattresses, pillows, bedspreads, window drapes, desks, chairs, and wardrobes to provide the occupants with the most favorable conditions for study and comfort. Sheets and pillowcases are supplied and laundered by the University. Residents are expected to supply their own towels, blankets, and throw rugs. Additional furniture or fixtures generally cannot be permitted because of space limitations. Storage space is provided for all trunks, suitcases, and boxes. Laundry facilities are provided including automatic washers and dryers, pressing boards, and irons.

All residents of Claud Foster are strongly encouraged but are not required to subscribe to the student board plan at the University Cafeteria at an additional charge of $250 per semester.

Applications for rooms in Claud Foster Hall or requests for further information should be addressed to:

Dean of Students
Adelbert Main Bldg.
Western Reserve University
Cleveland, Ohio 44106

GRADUATE AND PROFESSIONAL WOMEN'S RESIDENCES

Residences for women enrolled as full-time students in the graduate and professional schools of the University are Guilford House and Mather House on the campus and the Residence Hall of University Hospitals. All three residences are located near Freiberger Library, the Student Union and the University Cafeteria and are convenient to public transportation.

Accommodations, in single rooms, are provided for sixty women in Guilford House and approximately thirty in each of the other two residences. A bed, chest, desk, chairs and lamp are provided for each resident. The rooms are not designed to accommodate additional furniture except bookcases and stands for radios and record players. There

is also a washstand in each room in the University Hospital residence. Linens are furnished in all residences but students provide their own towels, blankets and bedspreads in Guilford and Mather Houses.

There are facilities for personal laundry and coin-operated washers and dryers in each residence as well as kitchenettes for the preparation of beverages and snacks. The use of electrical appliances in student rooms is limited to clocks, radios, record players and portable hair dryers. Residents are asked not to bring electric blankets or television sets.

The charges for single rooms per semester are:

Guilford House 11112 Bellflower Road	$230
Mather House 11201 Euclid Avenue	$230
University Hospitals Residence 11100 Euclid Avenue	$270

All residents may subscribe to the student board plan at the University Cafeteria at an additional charge of $250 per semester.

Applications for rooms or requests for further information should be addressed to:

Associate Dean of Students
Mather Memorial Building
Western Reserve University
Cleveland, Ohio 44106

STUDENT UNION

The building which today is the Student Union was built in 1913 to serve as an exclusive social club. The University then acquired the building, renamed it Thwing Hall for a former president, and it became the University library.

In 1957 Thwing Hall was remodeled, refurbished in modern style largely through alumni gifts, and now serves the University community as the Student Union. It contains lounges, meeting and conference rooms, a music room, ballroom, study room, game room, a popular snack bar, student activities' offices, and the bookstore. Located at 11111 Euclid Avenue, the Student Union is the center of out-of-class educational, social, and recreational activities on the campus.

THE UNIVERSITY HEALTH SERVICE

1. THE UNIVERSITY HEALTH SERVICE FACILITY:

The services of the University Health Service are available to all students of Western Reserve University unless otherwise indicated herein. The University Health Service is located at Euclid Hall, 11124 Euclid Avenue, Cleveland, Ohio 44106. This facility is open Mondays through Fridays, 8:30 A.M. to 4:30 P.M. Telephone CEdar 1-7700, Ext. 2231.

2. DISPENSARY:

Medical and surgical treatment offered is given in the Dispensary at the Health Service building at the hours stated above and by the physicians on duty at the time of the visit. The staff represents several specialties but all are not present simultaneously. Medical or surgical consultation both within and outside the staff, laboratory work, diagnostic X-rays, and standard medication will be provided if these services are requisitioned by the staff as a part of the medical work-up and/or treatment of a patient in the Dispensary.

3. CALL SERVICE AND AFTER-HOURS EMERGENCY PROCEDURE:

Telephone contact (SW 1-5195) with a physician of the Health Service staff is maintained to assist students in securing medical care after Dispensary hours. Payment for after-hours treatment or emergency services is not covered by the Health Service, but under many circumstances is covered by the compulsory insurance program for students as outlined.

4. HEALTH REQUIREMENTS OF THE UNIVERSITY:

(1) A physical examination is required of all new full-time students immediately prior to enrollment. This is made by a doctor of medicine of the student's choice and is not provided by the Health Service. (2) Smallpox vaccination at the time of the examination is likewise required. (3) Chest X-rays and tuberculin skin testing are required of all new students (both full-time and part-time).

Chest X-rays and tuberculin skin testing are provided through the Health Service at no extra cost to the student at the time and place of registration. It is the responsibility of the student to obtain an X-ray of the chest either as indicated, or elsewhere at his own expense. Tuberculin skin testing is offered throughout the academic year at the Health Service.

5. SURVEY OF MEDICAL HISTORY AND PHYSICAL EXAMINATION REPORTS:

Upon notification by the Admission Office of a student's acceptance, the Health Service sends medical history and physical examination forms to the prospective student. The student completes the medical history and takes it to a doctor of medicine for a physical examination. The physician reports his findings on the form and mails the completed form to the University Health Service.

The Health Service surveys the record, evaluates the physical and emotional fitness of the student and places the record on file as a basis for meeting future medical needs of the student.

The record must show evidence of smallpox vaccination at the time of the examination.

6. PHYSICAL FITNESS CLASSIFICATION:

On the basis of the medical history provided by the student and of the physical examination report, the Health Service will prepare a physical fitness classification sheet for students in colleges requiring Physical Education and for others desiring to participate in intramural sports. If there is a question about the suitability of the classification, the student should consult the Health Service promptly.

7. NOTIFICATION OF ILLNESS:

The Health Service reports instances of illness to the various schools so that their deans may be informed of the health of their students and so that their departments may make proper appraisal of class absence. The Health Service also notifies relatives of students in case of serious disorder.

A student treated elsewhere than at the Health Service should provide a written report from his physician if he wishes the Health Service to notify the school of his illness.

8. PRE-EXISTING ILLNESSES:

The Health Service reserves the right to place the financial responsibility upon the student-patient for diagnostic work and for consultations regarding conditions existing prior to registration in college.

9. PSYCHIATRY:

Consultations with the Health Service psychiatrist are available to students by appointment. There is often, however, considerable demand for such consultations and delays in securing appointments cannot always be avoided.

Evaluations and short-term treatment are covered by the Health Service fee. However, if long-term therapy is considered indicated by the Health Service psychiatrist, then referral is made to a private psychiatrist at the student's expense. Psychiatric hospitalization is covered by the insurance program below, providing the policy has been in effect three months.

10. HEALTH PROGRAM AND FEE:

The Health Program includes the services of the University Health Service and the supplementary Health and Accident Insurance Program. The Health fee is $18.00 for each first semester and $21.00 for each second semester.

The Health and Accident Insurance Program supplements the Health Service program and covers each year to a maximum of $1,000 for accidents and to a maximum of $1,000 for illnesses for medical expenses away from the regular University Health Dispensary. There is a $25.00 deduction in the case of illness only, for which the student must pay for treatment outside the Health Service facility. Within certain stated limits, the insurance program will cover the cost of hospitalization, outpatient medical expenses, physicians' fees, private duty nursing fees, anesthesia, and drugs. The second semester payment also covers the student during summer vacation. Students participating in intercollegiate athletics have a limit of $250 coverage on athletic accidents and have additional coverage by a National Collegiate Athletic Association policy.

Fees are arranged in the following manner:

(a) The Health fee is a required part of all flat tuition fees.

(b) All full time and part time students who live in University residence halls are required to pay the Health fee.

(c) All other part time graduate students registering for a minimum of five semester hours may receive the services of the Health Program by paying the Health fee and by meeting all "Health Requirements" as listed under section 4.

(d) Part time graduate students taking fewer than five semester hours are NOT eligible for the Health Program.

DENTAL SERVICE

The School of Dentistry, Western Reserve University, maintains a clinic in which all phases of dentistry are performed. The work is done by student operators under faculty supervision. Services are available to students and faculty of the University as well as the general public. Additional information may be obtained by calling 791-3210.

THE UNIVERSITY PLACEMENT SERVICE

The School of Library Science maintains an active interest in the professional careers of its graduates. The Assistant Director of Placement, Miss Dorothy Martinek, arranges the bringing of interviewers to the Campus in the spring to discuss job opportunities with the current class. Her office is also ready at all times to be of service to the alumnus seeking a change of employment.

TRANSCRIPTS

Western Reserve University considers the grades earned by a student and other information about his performance at Reserve to be a private matter. However, the University reserves the right to release such information in circumstances deemed proper by the University Registrar or upon written request of the student.

THE ALUMNI ASSOCIATION

The national Alumni Association of the School of Library Science holds a yearly meeting at the time of the American Library Association Conference, as well as a Cleveland meeting in June in honor of the graduating class. The Association publishes, irregularly, a bulletin carrying news of the School and of the alumni, and supports a continuing Alumni Fund for scholarships and other benefits to the students and the School.

CAMPUS PARKING FOR STUDENT CARS

All parking for Western Reserve University, University Hospitals, and Case Institute of Technology is centralized for administration and control in the University Circle Development Foundation. Coupled with the assumption of responsibility for parking operation is a program of major increases in the inventory of parking space now under way by the U.C.D.F.

Basic rules of the University still apply, in that the privilege of parking on the campus is granted only to students who must drive cars to reach the campus. Permission cannot be granted to students who can use public transportation, or to those who live in dormitories, fraternity houses, or in private homes within walking distance of the campus. Overnight parking is not permitted on University property, except by permission and then only in designated places.

Students may apply for parking permits at the time of registration. To the extent that space is available, full-time students who meet the above qualifications may purchase parking permits on a per semester basis. Part-time students, attending classes for fewer than nine credit hours (graduate) and for fewer than twelve credit hours (undergraduate) may also be able to purchase a permit on the same basis as above at a lesser cost. Summer Session permits are also available. Inquiry as to the cost of permits may be made on or after May 1, 1965 to the Office of the Director of Plant Services, Western Reserve University or to the University Circle Parking Department, 2009 Adelbert Road, Cleveland, Ohio 44106, (SW 1-6226).

Notification of parking lots available to students will be issued with each permit. Students who obtain parking permits agree to abide by the parking rules of the University and the University Circle Development Foundation. Violators are subject to fine, revocation of permit or disciplinary action.

Courses of Instruction

For course offerings each semester, see the various session schedules.

502 **History of Books and Libraries** (3) A survey of book production, the book arts, and the development of libraries from the classical world to the present, as conditioned by their social and cultural setting. RAWSKI, SHERA

503 **The Library in the Community** (3) The public library as a basic adult education institution; study of the community; relations with other institutions; community services; methods of working with individuals and groups. (Prerequisite: Consent of the instructor)

507 **Organization Theory and Libraries** (3) An examination of current theories of organization and their implications for individual and social behavior. Attention is given to the institutional structure and problems of libraries as illuminated by the study of this field. (Prerequisites: 511 and consent of instructor.)

511 **Introduction to Libraries** (3) Organization and structure of all types of libraries, with emphasis on administrative factors.

512 **Special Libraries** (3) Scope and development of the special library field, with emphasis on business information services, corporation and management libraries. Field trips and class meetings at various special libraries are a required part of the course. VORMELKER

514 **Hospital Library Service** (3) Orientation in the field: organization and techniques which apply to different types of hospitals, institutions, and public library extension services. Special emphasis on bibliotherapy and the library's contribution to rehabilitation. Field assignments are included. LUCIOLI

516 **College and University Library Administration** (3) The place of the library in the college and university organization. HURLEY

518 **Public Library Systems** (3) Study of social, governmental, and financial factors in the development of the public library; types of system organization; standards and trends.

521 **Information Sources and Services** (3) Study of the basic materials and methods with which a library gives information and reference service. FOCKE

522 **Information Sources and Services** (3) A survey of the bibliographic tools and other reference literature of various subject fields. Required of all students except those specializing in service to children. (Prerequisite: 521, or its equivalent.) FOCKE

524 **Documentation Survey** (3) A survey of the various means of recording, organizing, locating, and duplicating research materials in order to make them more easily available to the people who need them. Emphasis is divided between the larger aspects of information storage and retrieval systems and practical methods of documentation such as abstracting, preparation of literature reviews, and indexing by both conventional and non-conventional means. FOCKE

525 **Materials Selection** (3) Principles of selection of books and non-book materials. Analysis of materials in relation to the needs and interests of the general reader.

527 **Government Documents** (3) An introduction to the nature of government publications, their acquisition, organization, and use. Emphasis is on U. S. Government documents, but state, foreign, and United Nations documents are touched upon. FOCKE

529 Research in Librarianship (3) An introduction to the major areas of research in librarianship, the methods appropriate to different types of problems, and the intelligent reading and evaluation of research reports. Required of all doctoral students. RAWSKI

530 Field Work (3) Supervised experience at appropriate levels in school and public libraries is required of students specializing in Service to Young Adults and in Service to Children. (Consent of student's advisor must be obtained at least six weeks prior to registration for field work) STAFF

532 Audio-Visual Materials in Libraries (3) The selection, organization, maintenance, and use of audio-visual materials in libraries.

537 Organization and Cataloging of Library Collections (3) Introduction to the bibliographic description of library materials and to their subject analysis through classification and subject headings. KALTENBACH

538 Cataloging and Classification (3) Additional study of library classification systems and subject cataloging; the organization of technical services; and the consideration of special problems. KALTENBACH

540 History and Theory of Classification (3) Historical development of the theories of the organization of knowledge and their influence upon systems of library classification. SHERA

550 Children's Literature (3) A survey course with emphasis upon modern trends in book publishing for children; for students not intending to specialize in this field. BRODERICK

554 Organization of Service to Children in the Elementary School and Public Library (3) A study of the philosophy, functions and activities which govern service in these two areas. Required of students specializing in library service to children. (Prerequisite: 511) BRODERICK

555, 556 Children's Literature (3, 3) An intensive course in the literature published for children today. Emphasis is placed upon traditional literature the first semester, with consideration given to current trends the second. Students acquire a knowledge of the basic books in all areas, as well as an introduction to reading guidance and book selection. Required of students specializing in library service to children. (Prerequisite to 555: 525 taken previously or concurrently) BRODERICK

559 Group Work with Children (3) Techniques of group work; preschool programs; story-telling; film programs in the public library, and demonstration class lessons and programs for elementary school libraries. Required of students specializing in library service to children. (Prerequisite: 555 taken concurrently, or consent of instructor) BRODERICK

560 Young Adults and Libraries (3) A survey of current trends in work with young adults in both the public and secondary school library. A brief presentation of basic philosophy, standards of selection, and techniques; for students not intending to specialize in this field. HUNT

561 Selection of Books for the Young Adult (3) Study of the criteria for selection of books and other materials for young adults. Familiarity with basic bibliographical tools in this field is supplemented by wide reading and discussion of suitable adult titles. Required of students specializing in library service to young adults in either school or public libraries. HUNT

562 Library Methods with Young Adults (3) Special problems in guiding and stimulating the reading of young adults in school and public libraries. Development of skill in giving book talks, writing reader's notes and other techniques through practical problems. Required of students specializing in library service to young adults in either school or public libraries. (Prerequisite: 561) HUNT

564 Organization of the Secondary School Library for Use (3) Study of the services, functions, and administration of the library in the junior and senior high school. Required of students specializing in secondary school library service. HUNT

566 Public Library Service to Young Adults (3) Developing service in various types of communities; existing patterns related to standards; methods of working with out-of-school youth as well as with students; service to youth-serving organizations, community agencies, and the individual young adult. Required of students specializing in public library service to young adults. (Prerequisite: 561) HUNT

572 Automation of Library Processes and Procedures (3) Survey and evaluation of the possible uses of data processing equipment within the traditional library functions—administration, acquisitions, catalog production, circulation, intercommunication, etc. Punch cards, computers, micro-records, photography, and visuals; comparative costs; current library installations. (Prerequisite: Consent of the advisor) OVERMYER

573 Information Retrieval Systems (3) Analysis of retrieval systems. Review of conventional and non-conventional means of acquisition, analysis, coding, storage, file organization, retrieval, and display of information. The structure and use of indexing languages is related to computerized and manual indexing systems. User needs and the systems approach. (Prerequisite: 524 taken previously or concurrently) GOLDWYN, MELTON, REES

574 Information Retrieval Systems (3) Practical experience with respect to the operation of an information retrieval system. Component parts of a total system will be analyzed to illustrate their interaction. Comparative performance of indexing languages. (Prerequisite: 573) GOLDWYN, REES, SARACEVIC

575 Information Processing on Computers (3) Historical review of computer developments, functions performed, and organization of computers. Punched card systems and stored-program computers surveyed in terms of information retrieval, scientific and business parameters. Principles of programming, systems organization, and symbol manipulation, with emphasis on application of high speed computers. JACOBS

576 Automatic Language Processing (3) Survey of computational linguistics and statistical approaches to processing text with emphasis on their application to information retrieval systems. MELTON

577 Introduction to Information Retrieval Theory (3) An elementary treatment of certain mathematical tools needed in the construction of abstract theories and models in the field of information retrieval. Application of these tools to the design and evaluation of retrieval systems. (Prerequisite: Consent of the instructor) GOFFMAN

578 Specialized Information Centers and Services (3) A review of the principal U. S. information centers and abstracting-indexing services. Differences between libraries, information centers, and information services are explained in terms of user groups, objectives, types of information provided, and the systems utilized to implement objectives. The role of coordinating agencies (such as the National Federation of Science Abstracting and Indexing Services, the National Referral Center for Science and Technology, and the Science Information Exchange) is analyzed. REES

580 Special Studies (Credit as arranged) Independent research in some area of librarianship or documentation which especially interests the qualified student. Such a special project must be approved by the faculty member in whose field the student proposes to work. The GE-225 is available for the running of problems. STAFF

584 The Literature of Science and Technology (3) A survey of the literature—its nature, history, and bibliographic organization—together with a consideration of special aspects of reader guidance and reference service in this area. FOCKE

586 The Literature of the Humanities (3) A survey of the literature—its nature, history, and bibliographic organization—of the fields of history, philosophy, religion, literature and language, and the arts; an introduction to special aspects of reference service in these subjects. RAWSKI

588 The Literature of the Social Sciences (3) A survey of the literature—its nature, history, and bibliographic organization—of anthropology, economics, political science, and psychology, with an introduction to special aspects of reference work in these fields.

590 Introduction to Law Librarianship (3) A survey and evaluation of library resources in the field of law, with emphasis upon bibliographical sources, methods of legal research, acquisition programs, cataloging and classification, and use of related materials. DEWITT

592 Introduction to Medical Librarianship (3) An introduction to the history and literature resources of medicine; medical library organization, administration, and services; selection, acquisition, classification, and cataloging of medical books and periodicals; medical bibliography and reference, including an introduction to the terminology of subject fields ancillary to medicine. (Prerequisite: Consent of the instructor)

594 Introduction to Music Librarianship (3) An introduction to the structure of musical knowledge; the literature and source materials of music; and the basic aspects of the organization and operation of music libraries. RAWSKI

629 Research in Librarianship for Doctoral Students (3) A research seminar devoted to directed study in various areas of librarianship. Each student develops a paper for publication, working individually with an advisor. Seminar meetings are devoted to discussion of general problems and the reading of papers in progress and in final form. Required of all doctoral students. (Prerequisite: 529 or equivalent) GOLDWYN, RAWSKI

640 Theory of Classification (3) A bi-weekly seminar session, supplementing in depth the lecture presentations in 540. Limited to doctoral students. SHERA AND STAFF

701 Ph.D. Dissertation (Credit as arranged) STAFF

Colloquium. Weekly series of library visits, lectures, discussions, and film demonstrations, presented by members of the staff and visiting lecturers. Attendance required of all full-time students; part-time students must attend Colloquium during at least one full term of their period of study.

Seminar for Doctoral Students. (no credit) One two-hour session per month during the Fall and Spring sessions. Required of all doctoral students throughout their residence. RAWSKI

* * *

Each candidate must present adequate library experience to qualify for the degree of M.S. in L.S. Opportunity to meet this requirement will be provided through assignments in the libraries of the Cleveland metropolitan area. This program is adapted as far as possible to each student's need.

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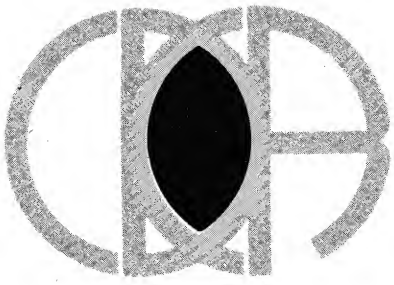

NEWSLETTER

NUMBER 13 SEPTEMBER, 1964

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CENTER FOR DOCUMENTATION AND COMMUNICATION RESEARCH

SCHOOL OF LIBRARY SCIENCE WESTERN RESERVE UNIVERSITY CLEVELAND 6, OHIO

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Prefatory Note

A summary of the activities during the past year and a half at the Center for Documentation and Communication Research must necessarily "hit the high spots." Even these were regretfully skimped when the Newsletter approached completion: to have included every interesting activity would have meant doubling or tripling the length of the publication.

And so there is little or no mention of the first union listing of medical serials for the Cleveland area, produced by the Center's GE-225 for the Cleveland Medical Library; the first computer-generated glossary of a French text (Camus' La Chute); an exploration of toxicological literature supervised by the Cleveland Poison Information Center and drawing on the resources of the powerful MEDLARS system at the National Library of Medicine; the development of a schistosomiasis bibliography to the point of its being supported by the Ford Foundation. Readers will note the large proportion of activity at the Center in affairs of medical documentation. While this orientation has been influenced by the establishment in 1963-4 of the Comparative Systems Laboratory, it is also no doubt the result of an accumulation of cooperative projects with the School of Medicine, Western Reserve University. Most exciting is the promised formation of the Cleveland Health Sciences Library, signalling a new kind of cooperation between the Schools of Dentistry, Medicine, and Nursing of Western Reserve University and the Cleveland Medical Library Association. We cannot at this point do more than extend an enthusiastic welcome to this important project, which promises so much in the areas of service and education.

Nor is there more than indirect reference to participation in 1963 and 1964, by Center personnel in conferences (literally) from Maine to

California, as well as in Rome, London and Denmark.

We take the responsibility for this suppression of news — unwonted and unwanted — as the inevitable result of not producing the Newsletter more frequently. We can only demonstrate activity with a higher priority, and vow to do better in the future.

A. J. Goldwyn
Executive Director

Center for Documentation and Communication Research
School of Library Science
Western Reserve University

Newsletter No. 13 Autumn, 1964

It seems appropriate to begin this review of our activities for the last year and a half with a report of a conference on "The Education of Science Information Personnel — 1964," held at the Wade Park Manor in Cleveland on July 27-28, 1964. The invitational conference was sponsored by the Center for Documentation and Communication Research (CDCR), School of Library Science, Western Reserve University. Participants included representatives of twenty educational institutions, both traditional and non-traditional in their approach to the handling of scientific information. Observers were present from the Air Force Office of Scientific Research, the National Institutes of Health, the National Science Foundation, and the U. S. Office of Education, and from local and national business concerns. General Chairman of the sessions was A. J. Goldwyn, Executive Director of the Center.

After a keynote address by Dean J. H. Shera of the Western Reserve School of Library Science, each school reported its program, effectively updating the survey conducted by Georgia Tech in 1961-62. Discussions and workshops established terms of common ground which stressed the advantages of an interdisciplinary solution of the manpower training problem.

Dean A. D. Booth of the University of Saskatchewan, appointed Interdisciplinary Professor of Autonetics at Western Reserve University, discussed the role of mathematics in new curricula. Alan M. Rees, Assistant Director, CDCR, outlined the place of research in the education of science information personnel, and a team from Battelle Memorial Institute reported

progress on the study of manpower needs being conducted there.

On Monday evening, July 27, at a banquet held on the lawn of the Gwinn estate, Dr. Stafford L. Warren, Special Assistant to President Johnson for Mental Retardation, spoke on his proposed National Library of Science System and Network.

The Proceedings will be printed for general distribution in the near future.

I. Testing and Evaluation

A. Development of a Documentation Facility for the Health Sciences, National Institutes of Health Grant No. FR - 00118-01A1.

The first year of the NIH Grant was taken up with the establishment of a Comparative Systems Laboratory (CSL). The specific authorization within the original proposal upon which this decision was based was "the increasing requirement for assuring compatibility among information systems at various levels." This theme is developed to the point of "the establishment of a laboratory to pursue these investigations in a systematic and coordinated way." It was decided that the establishment of a CSL would maximize experience of current personnel and use of current equipment; exploit as many sub-files as possible from current resources — including, especially, the so-called Communicable Disease Center (CDC) file developed under the terms of NIH Grant AT 02913-1351; and provide a framework for further expansion of health sciences documentation facility. Other tasks listed in the original proposal were subsumed within the design of the CSL. Phase I of the grant activities was therefore planned with, as its overall objective, the initiation of the CSL to test the comparative efficiency of systems developed at CDCR and elsewhere. Their performance would be evaluated by a series of experiments conducted upon a file in the area of the health sciences. One or more user groups would be identified and established to assess the effectiveness and utility of search outputs. The principal tasks:

1. to determine at what point, and under what conditions, the performance of an information retrieval system is optimized; and
2. to establish the comparative performance of a number of systems under controlled conditions.

Major activities have been formulation of methodology, preparation of files for testing, and establishment of user groups.

a. Methodology.

The first task was to define and evaluate the major components of an IR system, such as acquisitions, origin of input (title, abstract, full text, etc.); indexing language; terminology; coding; organization of the file; question analysis; searching procedure; and format of output. Other variables (variations in indexing efficiency, in user class, in discipline, in file size) would not be disregarded. It was posited that the performance of a system might be measured in terms of a function of its effectiveness and efficiency. Effectiveness is defined as the measure of the system's ability to perform the task for which it was designed; efficiency as a cost function of time, or effectiveness per dollar. (The complete enunciation of test measures and methodology appears in the Newill-Goffman paper (3).)

b. File Preparation

File preparation is almost complete, with meticulous attention to standardization of input. This was assured by the documentation of every operation and the preparation of a manual of instruction for each one. Files on magnetic tape for the complete test file (600 CDC documents) were prepared in four indexing languages. Codes were prepared for each. Computer programming for sorting and match-merging of coded terms was undertaken. A series of seven internal reports has been prepared for staff use. A modified PERT diagram illustrates the steps in file preparation further described in Goldwyn's paper (1).

c. Identification of User Groups

Three groups have been identified. 1. A "local" — WRU School of Medicine — group for preliminary investigations and setting-up of procedures; 2. a group within the CDC, coordinated by Mrs. Mary S. Waddell, Librarian at CDC, and chaired by Dr. Libero Ajello; and 3. an international group of contributors to the Tropical Disease Bulletin, individuals to be contacted through courtesy of the Bureau of Hygiene and Tropical Diseases, London. Preliminary contacts with 1 have been established. 2 and 3 will be added as testing progresses through the next year.

Testing (including question analysis, search strategy, and evaluation of test results) will be the chief occupation of the next year of CSL activity. Other concurrent activities will include an evaluation of abstractor efficiency, and further study of indexing languages (see Goldwyn's paper (2) and Melton's paper (4)).

B. Search Strategy. Air Force Office of Scientific Research. Grant No. AF-AFOSR 403-64.

For the last year or more, the CDCR has devoted an increasing share of its research effort to the investigation of the theoretical aspects of information retrieval. This activity has brought new emphasis to the AFOSR project, directed for several years by Dr. William Goffman. During the past year the activities have included:

1. The construction of a mathematical model for a search strategy in information retrieval. This model presents a theoretical solution to two fundamental problems in the field. It gives necessary and sufficient conditions for a set of documents to be an answer to a question and it gives a method for partitioning a file in such a way that if a member of the answer belongs to a certain class then all members of the answer belong to that class.

2. The construction of a formal logic underlying the search strategy of an information retrieval system.

3. The completion of experiments with an evolutionary approach to the construction of a file. The general assumption under which specific hypotheses were tested was that the history of an information retrieval system plays an important role in its future. That is, documents which had a high probability of being an answer to a question in the immediate past will continue to have a high probability of being an answer to a question in the immediate future. The results indicated that the above hypotheses should not be rejected for the sample tested.

4. The development of a methodology for comparative studies of information retrieval systems. (1, 2, 3, 4)

5. The construction of a dictionary of metalanguage terms based on a file of 50 documents from the literature of opthalmology.

II. "Systems" Approaches.

The development of information retrieval systems for specific appli-

cations and the development of sub-systems which hold promise for specific applications, continue as important parts of the CDCR's research. In each project listed below, a specific purpose has generated the guidelines for project development. These projects are, in a sense, task-oriented, although this does not preclude generalizable results. They have been approached from the "systems" point of view, i.e., the identification and accomplishment of sets of tasks and sub-tasks oriented to a specific goal.

A. An Operating Test of a Pilot Educational Media Research Information Center. U. S. Office of Education. Title VII Project B-170b

More than, 4,500 research studies on or related to the newer educational media (educational TV, teaching machines and programmed learning, tape recorders, films, slides, etc.) have been analyzed, indexed and stored on magnetic tape. Several indexing methods have been used for the present collection providing a flexible base for future system development. Among these are a faceted approach and a "deep index" approach utilizing links, roles and coded terminology. As a result of the recent decision of the U. S. Office of Education to develop a coordinate indexing system for its Educational Research Information Center (ERIC), the Center for Documentation and Communication Research has initiated work on the development of a thesaurus of educational terms. The thesaurus will be based on some 9,000 terms, selected from a total of 6,500 documents analyzed and indexed by the Center over the past three and a half years.

Under the present contract a pilot user group of 20 leading educational researchers has been established to aid in the Center's develop-

mental research. Although advisory groups in information retrieval are not new, in the past they have usually functioned as critical observers without the benefit of actual participation. Analysis by the education pilot user group is based on operational fact since each user will submit up to eight research-based questions to be searched.

The function of the user group is to analyze and evaluate search output in four areas:

1. Coverage (within the user's own subject area or field of interest.
2. Usefulness (in relation to the user's own research needs).
3. Relevance (of abstracts received in response to questions).
4. Recall (missed known answers).

The Center, on the basis of the questions submitted by the user group, is examining four important aspects of system development:

1. Development of question analysis techniques.
2. Revision and testing of indexing techniques.
3. Relevance assessments by different evaluators (questioner, staff member, and expert).
4. Development of operational administrative procedures (speed of service, work flow, etc.).

A three-day seminar was held in October, 1963, in Cleveland, to acquaint the pilot user group with the Center's research during the previous three years and to seek the group's advice on aspects directly related to the needs of educational researchers. In the year which followed, 42 questions were searched, the results analyzed, and recommendations for modification in techniques and selection criteria were formulated. (9, 10, 11, 12, 13)

B. Automatic Processing of Metallurgical Abstracts for the Purpose of Information Retrieval. National Science Foundation. Grant No. GN-303

Research is continuing on the development and testing of methods for processing previously generated abstracts for information retrieval. The aim of the research, more specifically, is to automate subject indexing, perhaps the most difficult and expensive task of information systems when performed manually.

Briefly the procedure is as follows. Abstracts from the metallurgical section of Chemical Abstracts are punched on Flexowriter tape and converted to magnetic tape, preserving the typographical characteristics of the printed text.

Computer procedures are designed for processing the abstracts on a level above straight dictionary look-up while avoiding total linguistic analysis. Metallurgical terms in the text are located and grouped according to a strict subject indexing rationale.

The next phase of the project will be devoted to refining and testing the system. Two kinds of tests will be necessary: tests of the ability of the system to analyze new sentences beyond the present corpus; and tests of the information retrieval effectiveness of the system. (4, 5, 6)

C. Manipulation of Autopsy Diagnoses by Computer Technique. Cooperative project: CDCR and WRU Institute of Pathology.

A fully automated information retrieval system for autopsy records, utilizing the original record (punched on paper tape) as computer input, will be offered by the Institute of Pathology of WRU in mid 1964.

Preliminary work leading to this system is reported in two papers (7,8). It was partly supported within the framework of the Comparative Systems Laboratory. The project has generated an unusual amount of interest, particularly after the appearance of the JAMA article. Operational experience will be reported in subsequent Newsletters.

D. Diabetes Literature Retrieval. Joint project with the University of Rochester under National Institutes of Health sponsorship. Grant No. A 6399.

A portion of the Center's work in cooperation with the American Diabetes Association project, described in previous Newsletters, resulted in the preparation and publication of a title and key-word index of the diabetes related citations in Index Medicus for 1961. A similar index for the 1962 citations is in press and will be released shortly.

Plans are underway for the testing of an experimental current awareness service. The bulk of the selections for this service will be inputted mechanically; the remainder will be selected by editorial review of the current literature.

E. Library Mechanization Feasibility Study.

Professor Lyon Richardson, Director, University Libraries, has appointed Assistant Professor LaVahn Overmyer of the CDCR to chair a committee to investigate the feasibility of mechanizing certain routines. This important decision promises to provide both a laboratory and a demonstration project, from the point of view of our training program — while at the same time making a significant contribution to the service value of the library complex.

III. Educational Programs

The documentation and information retrieval curriculum of the School of Library Science of Western Reserve University is closely associated with the research activities of the Center. The merging of an instructional situation with a research environment has contributed to the widening of the students' base of experience and knowledge.

The above makes possible: intensive instruction in basic principles; problem-solving tasks, designed to give the students experience in system operation and development; and the opportunity for participation in the research programs at the Center. Of particular interest are three new courses added to the "basic" series in documentation and information retrieval. These are Information Retrieval Systems II, Automation of Library Processes and Procedures, and Introduction to Information Retrieval Theory. (14)

Information Retrieval Systems II

Experience is provided with respect to the operation of an information retrieval system. Component parts of a total system are analyzed, such as acquisition, indexing, file arrangement, question analysis, search strategy and evaluation of outputs to illustrate their interaction. Practical experience is given for each sub-system. Each student is required to index a number of documents utilizing several indexing languages. Questions are assigned for analysis and searching, to explore the matching of questions and indexing languages. Students become familiar with the manipulation of a number of storage media (hand-sorted punched cards, magnetic tape, peek-a-boo cards, etc.). Search results are analyzed and tabulated by students and are related to indexing decisions, question analysis and search strategy used. The course, Library Science 574, has been developed and taught by the staff, including Mr. Saracevic, Lecturer in Library Science.

Automation of Library Processes and Procedures.

This course is planned to survey and evaluate the possible uses of data processing equipment within the traditional library functions — administration, acquisitions, catalog production, circulation, inter-

communication, etc. Punch cards, computers, micro-records, photography, and visuals are discussed; comparative costs are considered; current library installations are reviewed. The course, Library Science 572, has been developed and taught by Assistant Professor Overmyer.

Introduction to Information Retrieval Theory.

An elementary treatment of certain mathematical tools needed in the construction of abstract theories and models in the field of information retrieval. Applications of these tools to the design and evaluation of retrieval systems is discussed. The course, Library Science 577, has been developed and taught by Dr. Goffman.

Courses: Academic Year 1964-65

LS. 524 Documentation

LS. 540 Theory of Classification

LS. 572 Automation of Library Processes and Procedures

LS. 573 Information Retrieval Systems I

LS. 574 Information Retrieval Systems II

LS. 575 Information Processing on Computers

LS. 576 Automatic Language Processing

LS. 577 Introduction to Information Retrieval Theory

LS. 578 Specialized Information Centers and Services

LS. 580 Research in Information Retrieval

A brochure has been prepared which describes those courses which are especially designed for the documentation sequence within the School of Library Science. Together with the complete catalog of the School of Library Science, it may be obtained by request to the Center for Documentation and Communication Research or to the Office of Admissions, Western Reserve University, Cleveland, Ohio 44106.

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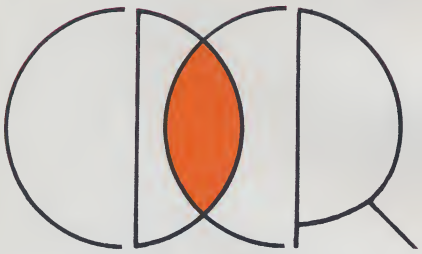
14. Rees, Alan M. and Tefko Saracevic, "The Teaching of Documentation at Western Reserve University." To be published in the Journal of Education for Librarianship, 1964. 9 p.

A cumulative, selected bibliography of Staff publications to date may be obtained by request to the Center for Documentation and Communication Research, School of Library Science, Western Reserve University, Cleveland, Ohio 44106.



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